

Case Study—Site Characterization

“GETTING INTO THE ENVIRONMENTAL INDUSTRY IS LIKE PUSHING A WAGON UP A HILL”

Traditionally, monitoring for the presence of particular chemicals is performed in a two-part process: technicians collect samples of the media under consideration and then forward the samples to a laboratory for analysis, which can be expensive and time-consuming. Moreover, in many places, insufficient laboratory infrastructure exists to perform the types of analyses that environmental monitoring and site characterization require. Product developers at **Inficon, Incorporated** (East Syracuse, NY) set out to “change the way researchers think about getting the answers they need,” and developed the HAPSITE Gas Chromatograph/Mass Spectrometer (GC/MS), a field-portable monitoring device that allows researchers to obtain test results in the field that are as precise and reliable as in-laboratory test results. However, when company planners decided to enter this innovative product into the market, they discovered that “newer, better, and faster doesn’t mean necessarily that people will buy it.” Many in the environmental arena are extremely risk averse, and the industry is heavily weighted against the introduction of new technologies. As characterized by Inficon, “getting a new product into the environmental industry is like pushing a wagon up a hill.”

Because Inficon’s objective is to persuade people that they can “get better answers, and an even better picture of their problem, by performing tests on site and getting their results right away,” they decided to have the performance of their product verified in a program that carried the credibility and prestige of EPA. They “didn’t know what to expect [from the ETV testing experience],” but felt that a statement from EPA confirming that the HAPSITE GC/MS performed as well as or better than stationary laboratory equipment would go a long way toward surmounting customer disbelief. The biggest surprise to Inficon was the large number of samples that Sandia National Laboratories, EPA’s partner under the Site Characterization and Monitoring Technologies Pilot, required of the HAPSITE GC/MS. The general tendency in the equipment testing field is to perform tests using a limited number of samples. ETV requirements run contrary to that tradition, resulting in “a very valid data set, and there was no way [the HAPSITE] could have been merely lucky,” according to Inficon. Having the HAPSITE GC/MS verified in the ETV Program helped support Inficon’s bold and ambitious claims.

Potential customers are impressed by the thoroughness of the ETV testing process and the performance of the HAPSITE GC/MS. Inficon uses the ETV report extensively in its marketing program. Although having a verification report does not necessarily close a deal, it certainly helps attract customer interest in the product. In fact, Inficon sales representatives credit the ETV Program’s verification report with generating sufficient interest among officials in Japan to warrant a product demonstration, ultimately resulting in sales of the HAPSITE GC/MS to the Japanese government. Inficon has also made sales of equipment in Germany, France, and Italy. This is an important achievement given that several government and private industry analysts warn that U.S. companies are lagging behind those in Germany and Japan in producing and marketing innovative environmental technologies.

In addition to enjoying an increase in international sales, Inficon’s HAPSITE GC/MS has been doing good work right at home. The Army Corps of Engineers (ACE) used the device to test for the migration of BTX (a mixture of benzene, toluene, and xylene) plumes from the Monterey Air Field (a former Department of Defense site) into a residential neighborhood. Although it may have been more cost-effective to perform periodic sampling with laboratory testing, the ACE project engineer supported on-site analysis. Using the HAPSITE GC/MS, engineers discovered that an unknown chemical was migrating from the site. After searching HAPSITE’s database, the engineers identified the chemical as trichloroethylene, which had contaminated the airfield as a result of long-ago equipment degreasing operations. The project engineer was able to act swiftly to redirect the project without reallocating project funds. The engineering crew was proactive in addressing an environmental hazard and managed to do it at a cost savings. This example represents the essence of Inficon’s objective for the HAPSITE GC/MS. The device makes on-site technical personnel “an integral part of the problem-solving team by returning control of a project to the field scientists and engineers,” who are in the best position to make critical evaluations and to develop action plans.